

Appl. No. 10/517,257
June 1, 2010

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AMENDMENTS TO THE CLAIMS:

Please cancel without prejudice claims 2 and 21 and amend claims 1, 3, 5, 14 and 20 as follows.

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method of forming a nanowire comprising:

(a) providing an arrangement of nanoparticles comprising a first material, wherein said first material is a ferromagnetic material;

(b) providing a vapor of molecules;

(c) depositing at least some second material from said vapor of molecules onto an exterior surface of one of said nanoparticles to form a deposit which surrounds at least part of the exterior of said one nanoparticle; and

(d) assembling more of said first material from said nanoparticles with said one nanoparticle to produce an elongate configuration of said first material in the form of a nanowire.

2. (cancelled).

3. (currently amended) A method of forming a nanowire according to claim 21, wherein the ferromagnetic material is selected from the group consisting of the metals cobalt, nickel, platinum, palladium and iron, and the alloys containing at least one of said metals.

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4. (previously presented) A method of forming a nanowire according to claim 1, wherein the second material comprises carbon.

5. (currently amended) A method of forming a nanowire according to claim
[[4]]comprising:
(a) providing an arrangement of nanoparticles comprising a first material;
(b) providing a vapor of molecules;
(c) depositing at least some second material from said vapor of molecules onto an exterior surface of one of said nanoparticles to form a deposit which surrounds at least part of the exterior of said one nanoparticle, wherein the second material comprises carbon; and
(d) assembling more of said first material from said nanoparticles with said one nanoparticle to produce an elongate configuration of said first material in the form of a nanowire,
wherein said vapor of molecules comprises fluorocarbon molecules.

6. (previously presented) A method of forming a nanowire according to claim 1, wherein said vapor of molecules comprises decomposition products produced from a polymer.

7. (cancelled).

8. (previously presented) A method of forming a nanowire according to claim 6, wherein the method comprises applying a temperature sufficient to decompose the polymer to form a vapour and insufficient to cause coalescence of the nanoparticles.

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9. (original) A method of forming a nanowire according to claim 8, wherein the temperature is below 600°C.

10. (previously presented) A method of forming a nanowire according to claim 8, wherein the temperature is above 100°C.

11. (previously presented) A method of forming a nanowire according to claim 9, wherein the temperature is approximately 375°C.

12. (previously presented) A method of forming a nanowire according to claim 1, wherein said nanoparticles catalytically assist a decomposition process, said decomposition process providing the material to form the deposit of second material around said one particle.

13. (previously presented) A method of forming a nanowire according to claim 1, comprising depositing at least some of the second material to form a deposit which surrounds the sides of said nanowire.

14. (currently amended) A method of forming a nanowire ~~according to claim 13~~ comprising:

- (a) providing an arrangement of nanoparticles comprising a first material;
- (b) providing a vapor of molecules;

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(c) depositing at least some second material from said vapor of molecules onto an exterior surface of one of said nanoparticles to form a deposit which surrounds at least part of the exterior of said one nanoparticle;

(d) assembling more of said first material from said nanoparticles with said one nanoparticle to produce an elongate configuration of said first material in the form of a nanowire;
and

(e) depositing at least some of the second material to form a deposit which surrounds the sides of said nanowire, wherein the nanoparticles comprise carbon and the method further comprises an annealing process which causes the carbon from the nanoparticles in the nanowire to migrate into the second material surrounding the nanowire.

15. (previously presented) A method of forming a nanowire according to claim 1, wherein the deposit of second material comprises graphite, defective graphite, amorphous carbon and/or carbon fiber.

16. (original) A method of forming a nanowire according to claim 15, wherein the deposit of second material comprises a plurality of layers of graphite and/or defective graphite.

17. (previously presented) A method of forming a nanowire according to claim 1, wherein the nanowire is substantially linear.

18. (previously presented) A method of forming a nanowire according to claim 1, wherein the nanoparticles are provided in the form of an agglomerated mass of nanoparticles.

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19. (original) A method of forming a nanowire according to claim 18, wherein a plurality of different nanowires is formed from a single agglomerated mass of nanoparticles.

20. (currently amended) A method of forming a nanotube comprising:

(a) providing an arrangement of nanoparticles comprising a first material;

(b) providing a fluid of halogenated molecules, wherein said fluid of halogenated molecules comprises decomposition products produced from a polymer;

(c) depositing at least some second material from said halogenated molecules onto an exterior surface of one of said nanoparticles to form a first deposit of second material which surrounds at least part of the exterior of said one nanoparticle; and

(d) depositing at least some further second material from said halogenated molecules so as to attach a second deposit of said second material onto said first deposit, to produce an arrangement of deposits in the form of a nanotube.

21. (cancelled).

22. (cancelled).

23. (cancelled).

24. (previously presented) A method of forming a nanowire comprising:

(a) providing an arrangement of nanoparticles comprising a first material;

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- (b) providing a fluid of molecules;
- (c) depositing at least some second material from said fluid of molecules onto an exterior surface of one of said nanoparticles to form a deposit which surrounds at least part of the exterior of said one nanoparticle; and
- (d) assembling more of said first material from said nanoparticles with said one nanoparticle to produce an elongate configuration of said first material in the form of a nanowire, wherein said first material is a ferromagnetic material.

25. (previously presented) A method of forming a nanowire according to claim 24, wherein the ferromagnetic material is selected from the group consisting of the metals cobalt, nickel, platinum, palladium and iron, and the alloys containing at least one of said metals.

26. (previously presented) A method of forming a nanowire according to claim 24, wherein the second material comprises carbon and said fluid of molecules comprises fluorocarbon molecules.

27. (previously presented) A method of forming a nanowire according to claim 24, comprising depositing at least some of the second material to form a deposit which surrounds the sides of said nanowire, wherein the nanoparticles comprise carbon and the method further comprises an annealing process which causes the carbon from the nanoparticles in the nanowire to migrate into the second material surrounding the nanowire.